

Date: Thursday, 11/12/2008 8:18:15 AM  
 User: Melanie Fauteux

## Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: FWD LITTER TIE DOWN BRACKET
Job Number	: 43973		
Estimate Number	: 11495		
P.O. Number	:	Part Number	: D3179041
This Issue	: 11/12/2008 S.O. No. :	Drawing Number	: D3179 REV C
Prsht Rev.	: NC	Project Number	: N/A
First Issue	: / / Type : MACHINED PARTS	Drawing Revision	: C
Previous Run	: 43957	Material	:
Written By	:	Due Date	: 18/12/2008 Qty: 10 Um: Each
Checked & Approved By	: <u>MF 08-12-11</u>		
Comment	: Est. A1 03.01.09 Added Acid etch end alodine RF Est Rev:B Added Powder Coat 07-07-04 JLM Est Rev:C 08-12-10 add part list DD verified by:JLM		

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	D6201	"T" Extrusion
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Comment: Qty.: 1.0631 f(s)/Unit Total: 10.6313 f(s)

Material: D6201 (6061-T6 (QQ-A-200/8) 4" x 4" x 3/8" Thick 'T' extrusion

Batch:

MM9359mf 08-12-10

(10)

2.0	BAND SAW	BAND SAW
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Comment: BAND SAW

Cut blanks: 12.150" long

mf 08-12-10

(10)

3.0	HAAS1	HAAS CNC VERTICAL MACHINING #1
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Comment: HAAS CNC VERTICAL MACHINING #1

1- Mill as per Folio FA297 Rev: C & Dwg D3179-1 Rev: C

2-Deburr per dwg D3179-1

Y.A 08/12/16

(10)

4.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE
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Comment: INSPECT PARTS AS THEY COME OFF MACHINE

Y.A 08/12/16

(10)

5.0	QC8	SECOND CHECK
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Comment: SECOND CHECK

mf 08-12-16

(10)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

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Job Number: 43973

Part Number: D3179041

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Acid etch and Alodine as per QSI 005 4.1

FL 08/12/17 (10)

7.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

M-L 08/12/17 (10X)

8.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

M 109996 (10X)

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

7:30  
320 OF  
8:00

M-L 08/12/18

9.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

FL 08/12/18 (10)

10.0

D2372

Quick Release



Comment: Qty.: 2.0000 Each(s)/Unit Total: 20.0000 Each(s)

Quick Release

batch:

91426

CC

11.0

D2444

Pip Pin Assembly



Comment: Qty.: 1.0000 Each(s)/Unit Total: 10.0000 Each(s)

Pip Pin Assembly

batch:

92976 1X 9X 43978 CC

12.0

MS21042L3

Nut



Comment: Qty.: 1.0000 Each(s)/Unit Total: 10.0000 Each(s)

Nut

batch:

108816 CC 8/14/12 (10)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Job Number: 43973

Part Number: D3179041

Job Number:



Seq. #:

Machine Or Operation:

Description :

13.0

MS27039113

Screw



Comment: Qty.: 1.0000 Each(s)/Unit Total: 10.0000 Each(s)

Screw

batch: 105211

14.0

NAS1149D0332J

Washer



Comment: Qty.: 3.0000 Each(s)/Unit Total: 30.0000 Each(s)

Washer

batch: 105993

15.0

SMALL FAB 1

SMALL & MEDIUM FAB RESOURCE 1



Comment: SMALL & MEDIUM FAB RESOURCE 1

Assemble as per Dwg D3179

16.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

17.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify with P/N and B/N using a permanent fine point marker on bottom face as per dwg, then Stock

Location: 8/12/18

18.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



MF 08-12-18

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b> 43973
<b>Description:</b> FWD LITTER TIE DOWN BRACKET		<b>Part Number:</b> D3179 -1
<b>Inspection Dwg:</b> D3179 <b>Rev:</b> C		<b>Page 1 of 2</b>

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

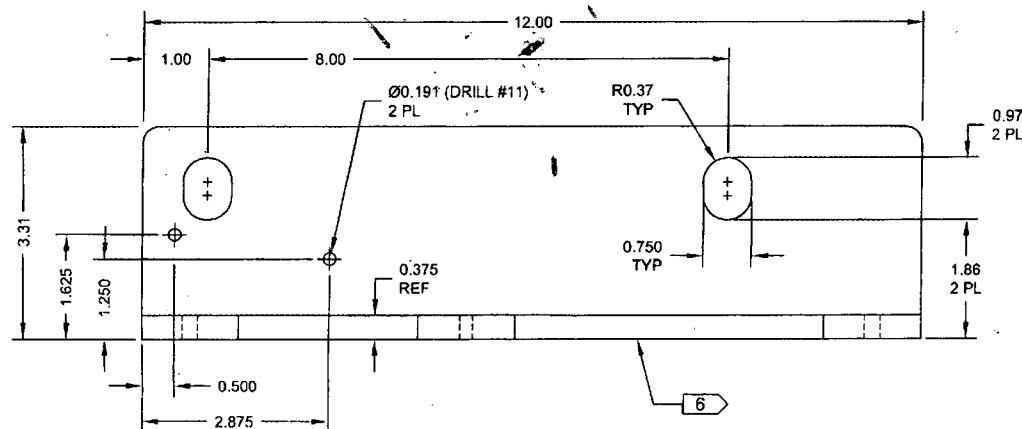
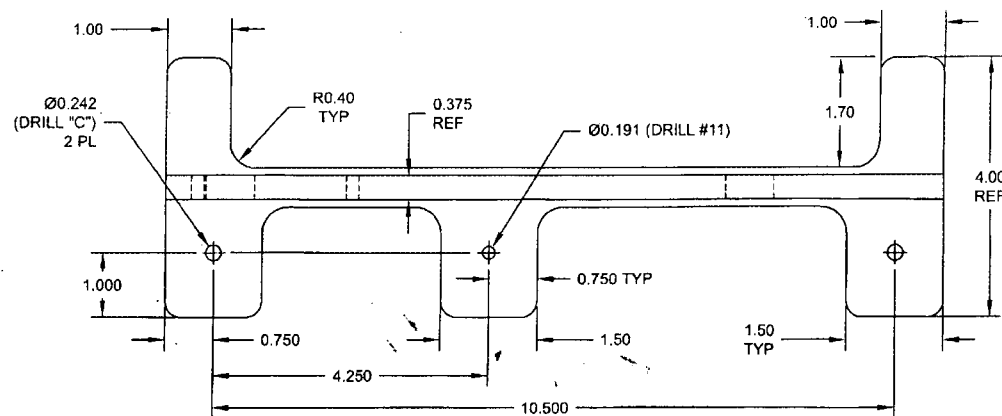
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
1.00	+/- .030	1.001	✓			
Ø 0.242	+ .005 / - .001	Ø 0.245	✓			
R0.40	+/- .030	R0.40	✓			
0.375	+/- .010	0.365	✓			
Ø 0.191	+ .005 / - .001	Ø 0.193	✓			
1.00	+/- .030	1.001	✓			
1.70	+/- .030	1.690	✓			
4.00	+/- .030	3.986	✓			
1.50	+/- .030	1.501	✓			
0.750	+/- .010	0.747	✓			
1.50	+/- .030	1.502	✓			
10.500	+/- .010	10.499	✓			
4.250	+/- .010	4.246	✓			
0.750	+/- .010	0.748	✓			
1.000	+/- .010	0.9975	✓			
12.00	+/- .030	11.999	✓			
1.00	+/- .030	0.999	✓			
8.00	+/- .030	7.998	✓			
Ø 0.191	+ .005 / - .001	Ø 0.193	✓			
R0.37	+/- .030	R0.37	✓			
0.97	+/- .030	0.967	✓			
1.86	+/- .030	1.862	✓			
0.750	+/- .010	0.747	✓			

<b>Measured by:</b> H.A	<b>Audited by:</b> [Signature]	<b>Prototype Approval:</b>	N/A
<b>Date:</b> 08/12/16	<b>Date:</b> 08-12-16	<b>Date:</b>	N/A

<b>Rev</b>	<b>Date</b>	<b>Change</b>	<b>Revised by</b>	<b>Approved</b>
A		New Issue	KJ/JLM	







# NOTES:





- 1) MATERIAL: MAKE FROM D6201-012 EXTRUSION (6061-T6/T6511 PER QQ-A-200/8)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N D3179-1 USING FINE POINT PERMANENT INK MARKER ON THE BOTTOM FACE
- 7) WEIGHT: 2.3 lbs

## D3179-1 LITTER TIE DOWN BRACKET

#43973

REFERENCE ONLY

RELEASED

DESIGN	BW	<b>DART AEROSPACE LTD</b>	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D3179	SHEET 2 OF 2
APPROVED		TITLE	SCALE
DE APPR.		LITTER TIE DOWN BRACKET	NTS
DATE	08.11.07	COPYRIGHT © 1995 BY DART AEROSPACE LTD	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE FARMER EXEMPTION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OTHER THAN THAT FOR WHICH IT WAS SUPPLIED. IT IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.			

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries

8

7

6

5

4

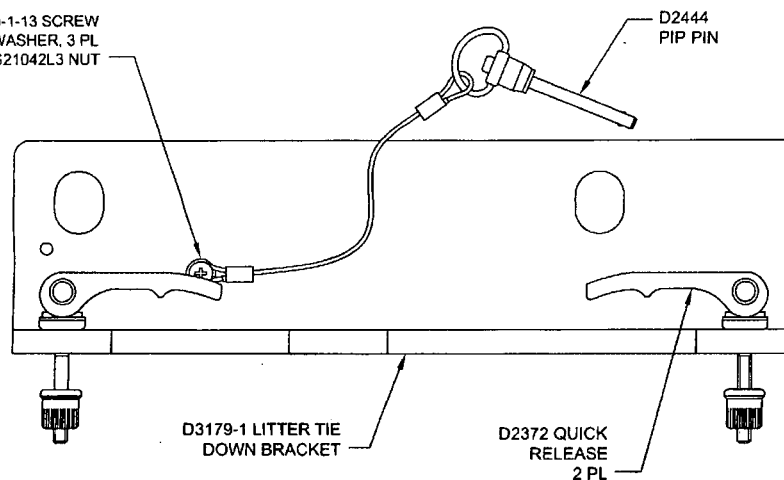
3

2

1

Item	Qty	Part Number	Description
1	X	D3179-041	FWD LITTER TIE DOWN
2	2	D2372	QUICK RELEASE
3	1	D2444	PIP PIN
4	1	D3179-1	LITTER TIE DOWN BRACKET
5	1	MS21042L3	NUT
6	1	MS27039-1-13	SCREW
7	3	NAS1149D0332J	WASHER (OR AN960JD10L)

MS27039-1-13 SCREW  
NAS1149D0332J WASHER, 3 PL  
MS21042L3 NUT



**D3179-041 FWD LITTER TIE DOWN BRACKET**

REFERENCE ONLY

FOR ENGINEERING USE ONLY

**NOTES:**

1) D3179-041 WEIGHT: 2.79 lbs

# 43973

RELEASED  
08/11/21

C	ADD D3179-041 & PART LIST (ZN 86-1, D2-1); D3179-1 WAS D3179 (ZN A5-2); REMOVE ENGRAVE P/N	RF	08.11.07
B	REFORMAT DRAWING; FINISH WAS ANODIZE	DC	07.06.06
A	NEW ISSUE	RF	02.12.09
REV.	DESCRIPTION	BY	DATE
DESIGN	BW	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D3179	SHEET 1 OF 2
APPROVED		TITLE	SCALE
DE APPR.		LITTER TIE DOWN BRACKET	NTS
DATE	08.11.07	COPYRIGHT © 1995 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE UNDERSTANDING THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	

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